Figure 1

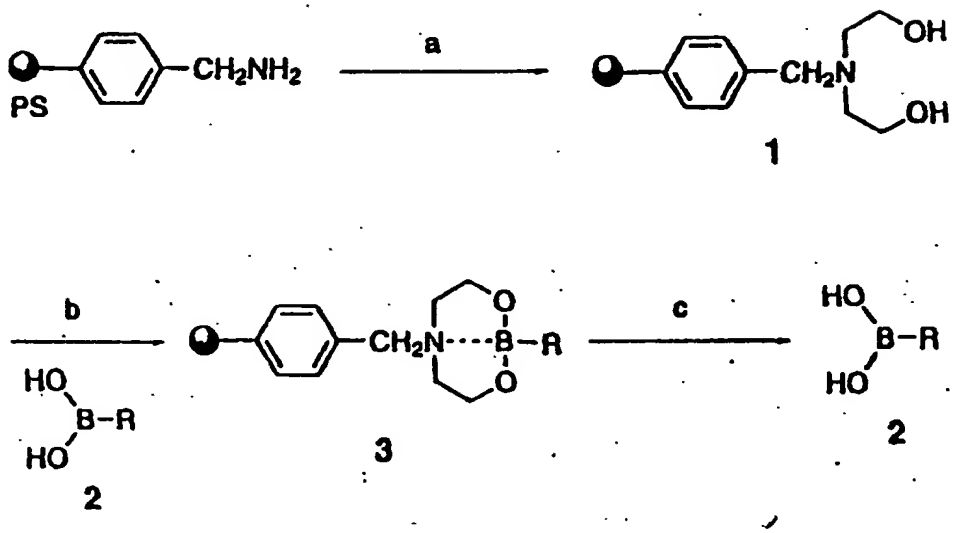

Figure 2

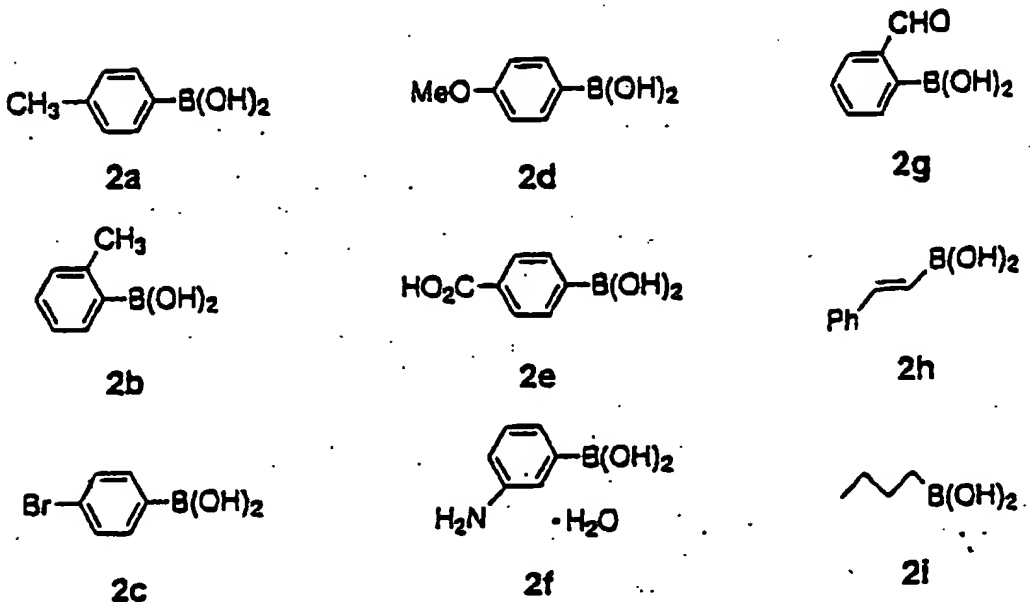

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Figure 3

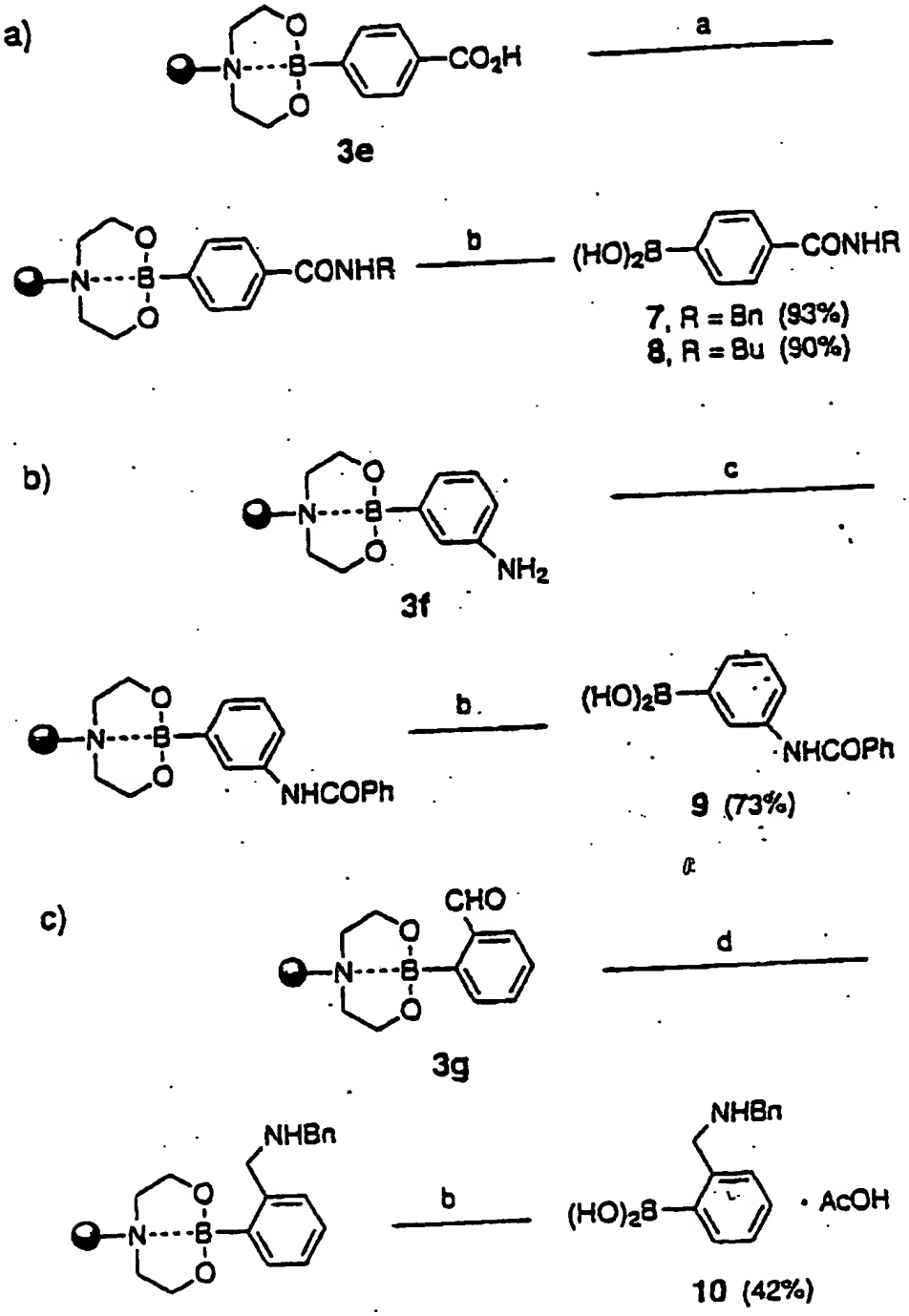

a)
CO2H
a
3e
CONHR
b
(HO)2B
CONHR
7, R = Bn (93%)
8, R = Bu (90%)
b)
NH2
c
3f
NHCOPh
b
(HO)2B
NHCOPh
9 (73%)
c)
CHO
d
3g
NHBn
b
NHBn
(HO)2B
• AcOH
10 (42%)

Figure 4

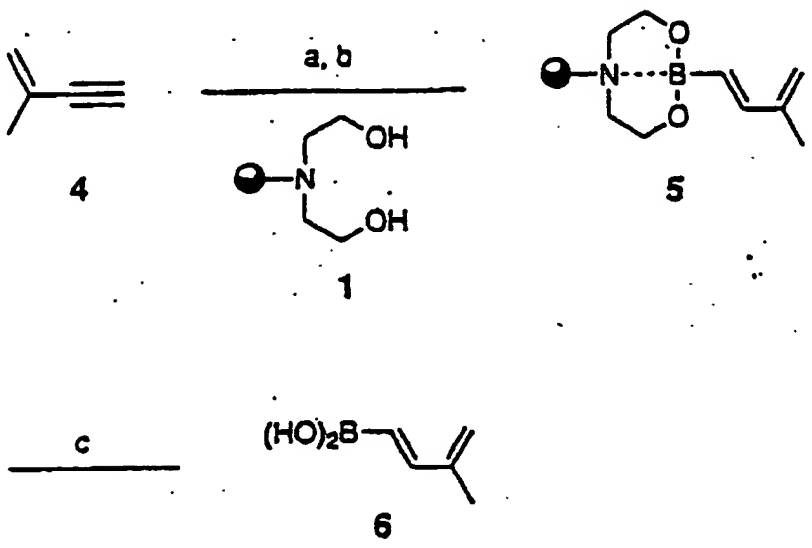
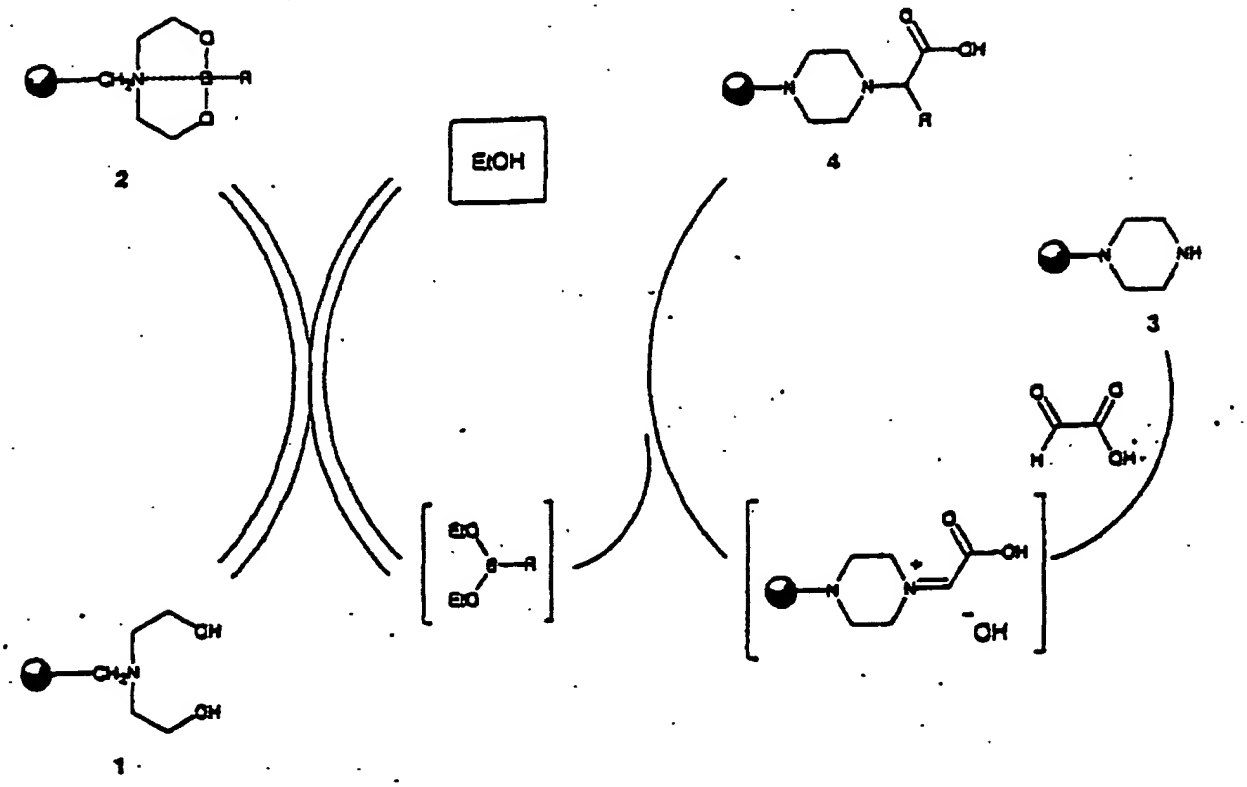


Figure 5



TOTE80 "99+E+660

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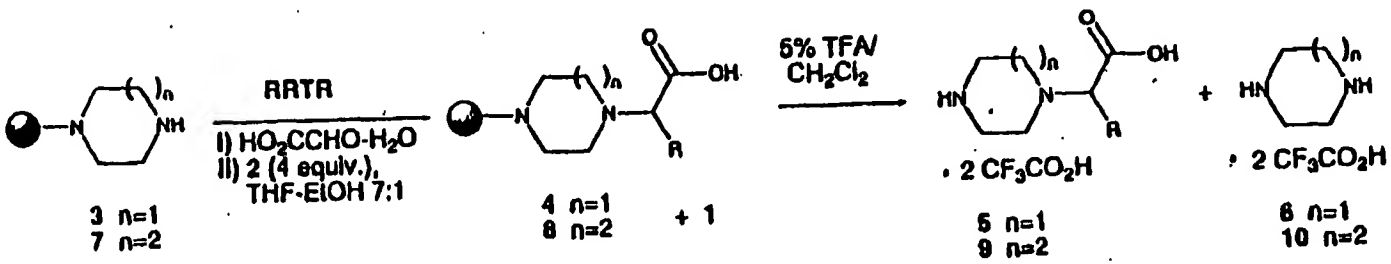
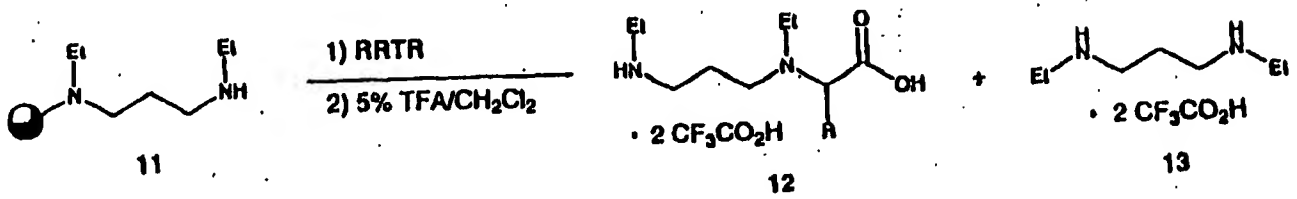
Figure 6



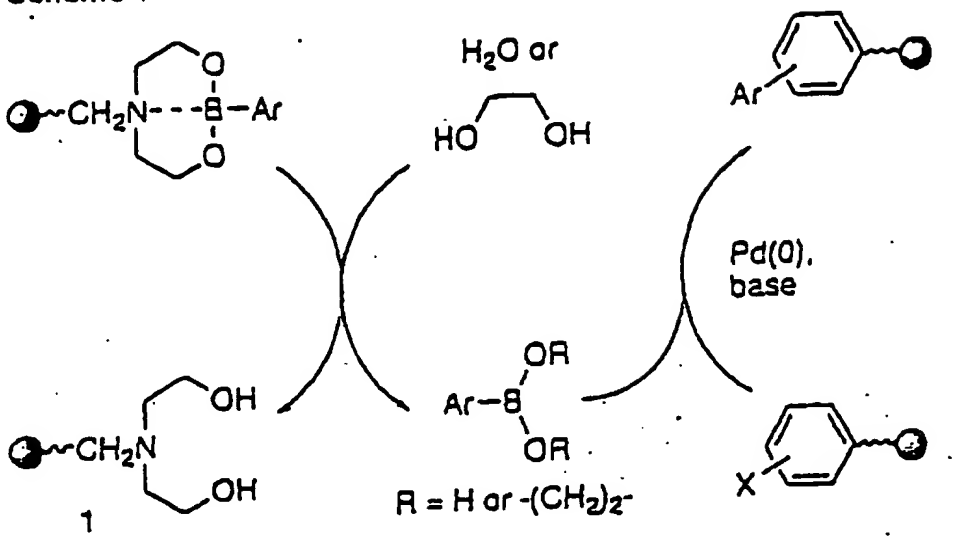
a R=4-Me-C_6H_4
b R=2-Me-C_6H_4
c R=4-MeO-C_6H_4
d R=4-Br-C_6H_4
e R=1-Naph
f R=*E*-HC=CH(Bu)



040

Figure 7

Scheme 1



Scheme 2

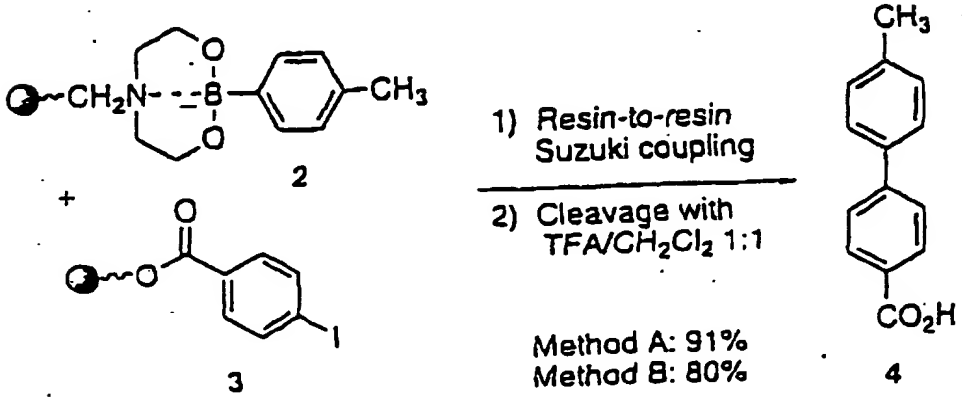


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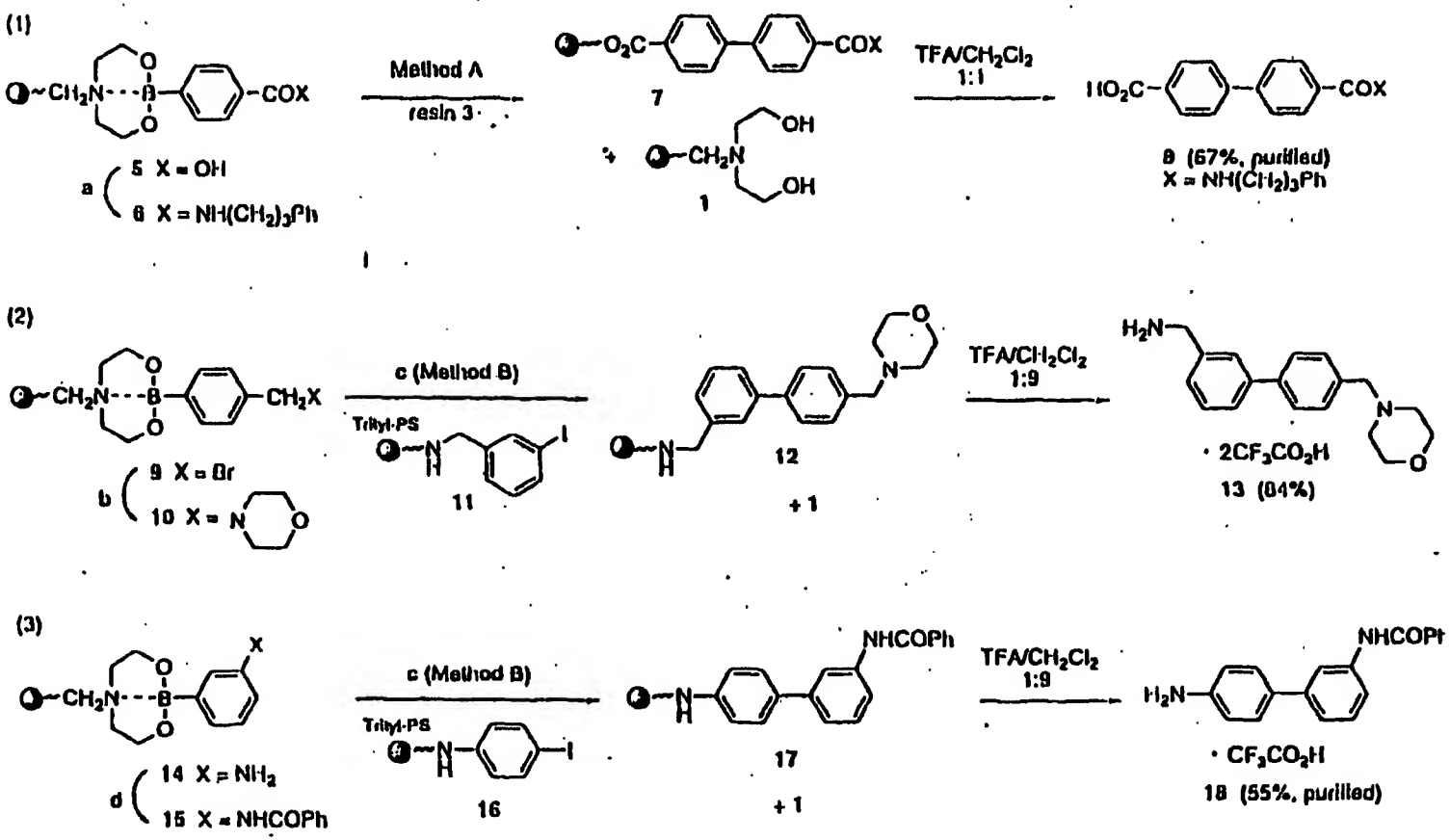
Figure 8



042

Figure 9

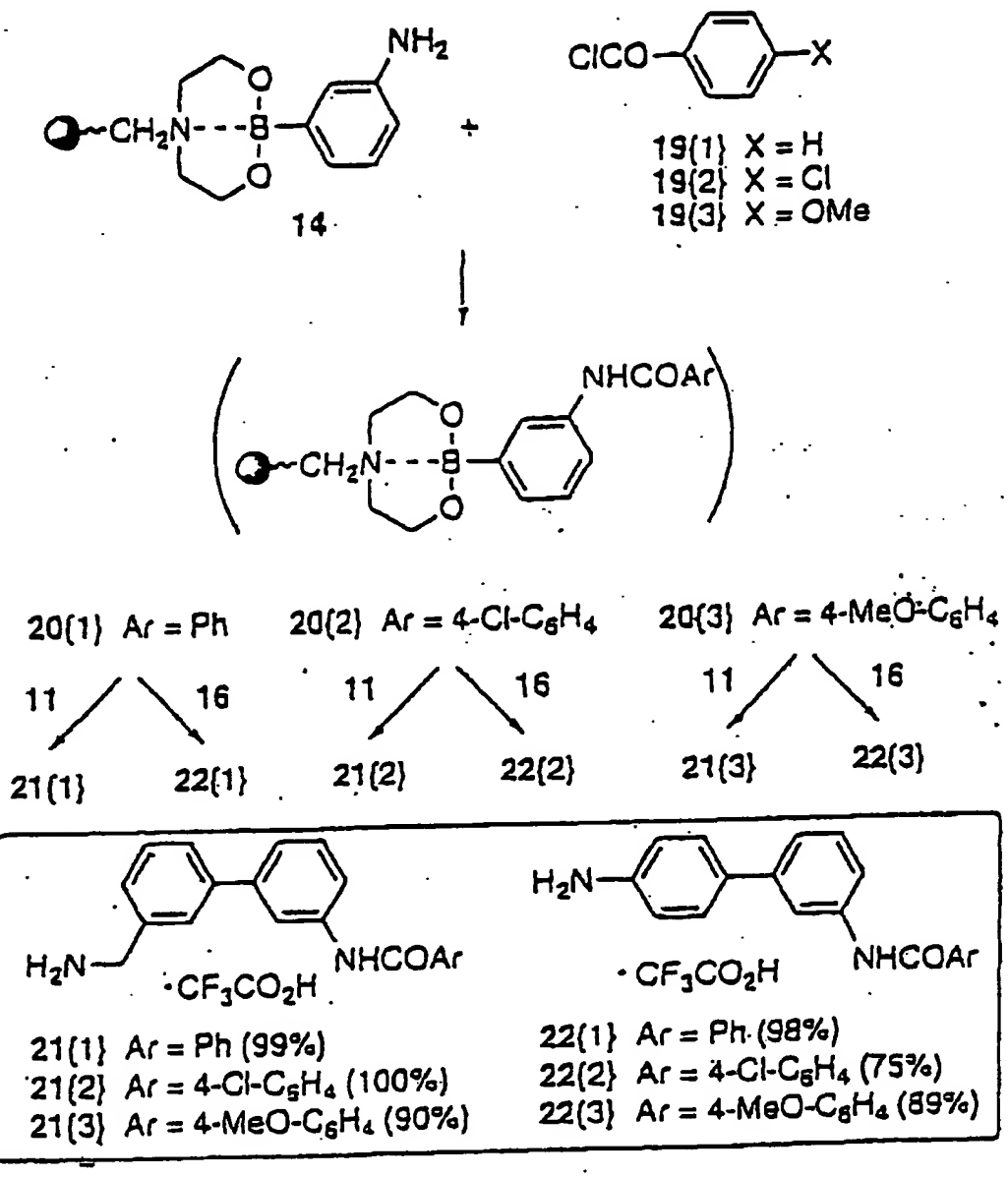

NH2
CH2N
B
O
14
ClCO
X
19(1) X = H
19(2) X = Cl
19(3) X = OMe
NHCOAr
20(1) Ar = Ph
20(2) Ar = 4-Cl-C6H4
20(3) Ar = 4-MeO-C6H4
11
16
21(1)
22(1)
21(2)
22(2)
21(3)
22(3)
H2N
·CF3CO2H
21(1) Ar = Ph (99%)
21(2) Ar = 4-Cl-C6H4 (100%)
21(3) Ar = 4-MeO-C6H4 (90%)
22(1) Ar = Ph (98%)
22(2) Ar = 4-Cl-C6H4 (75%)
22(3) Ar = 4-MeO-C6H4 (89%)

Figure 10

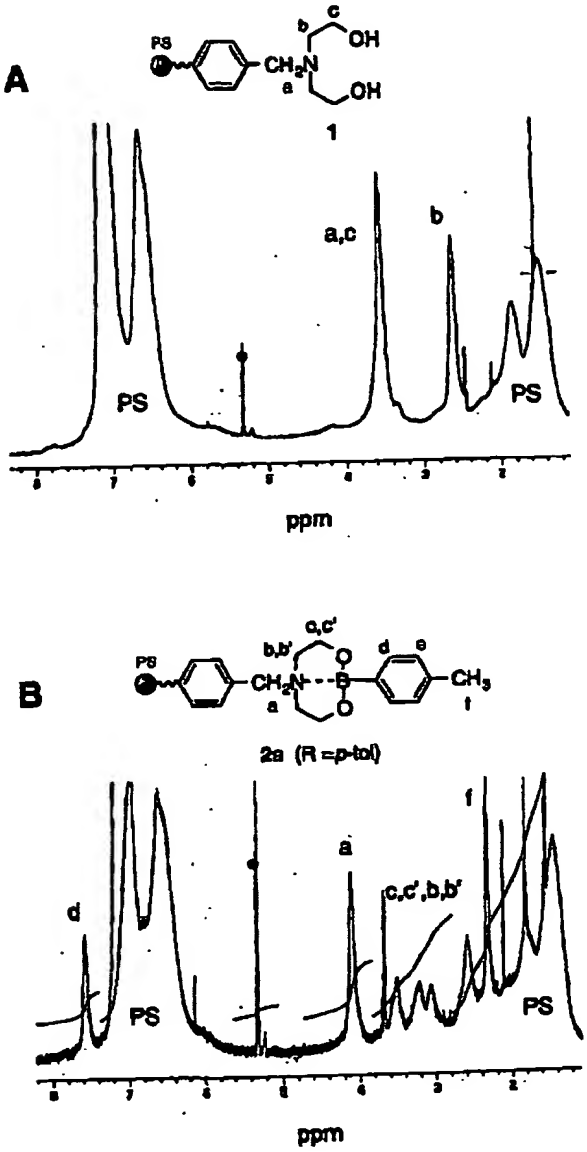

A
PS
CH2N
OH
OH
1
a,c
b
PS
PS
ppm
B
PS
CH2N
B
CH3
2a (R =p-tol)
d
a
c,c',b,b'
f
PS
PS
ppm

Figure 11

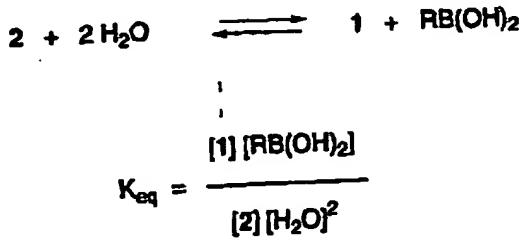


Figure 12

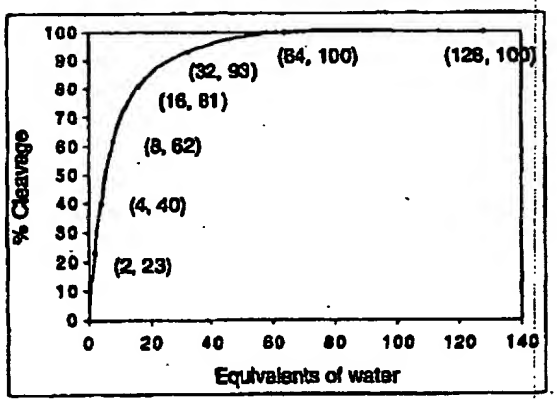


Figure 13

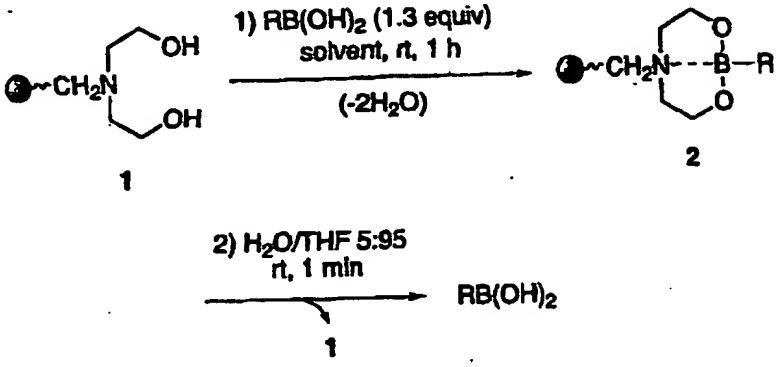


Figure 14

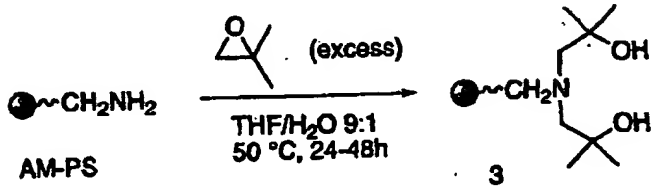


Figure 15

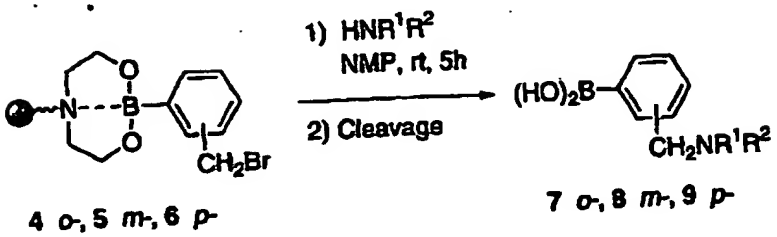
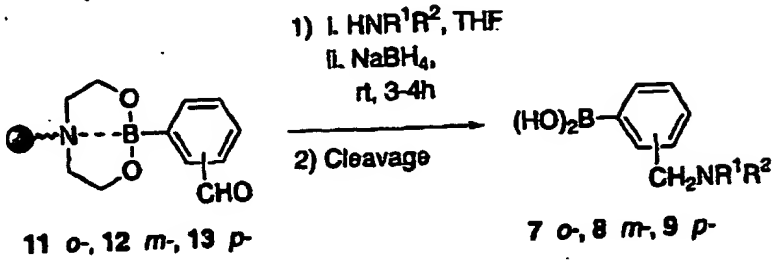


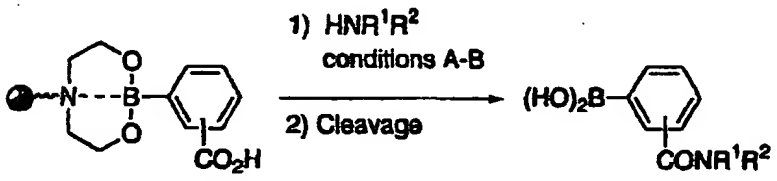
Figure 16



11 *o*-, 12 *m*-, 13 *p*-

7 *o*-, 8 *m*-, 9 *p*-

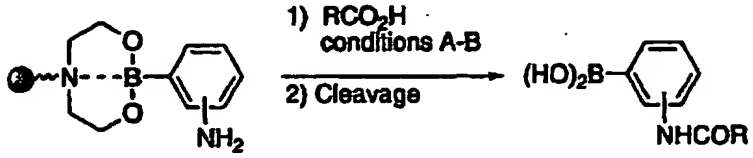
Figure 17



14 *o*-, 15 *m*-, 16 *p*-

17 *o*-, 18 *m*-, 19 *p*-

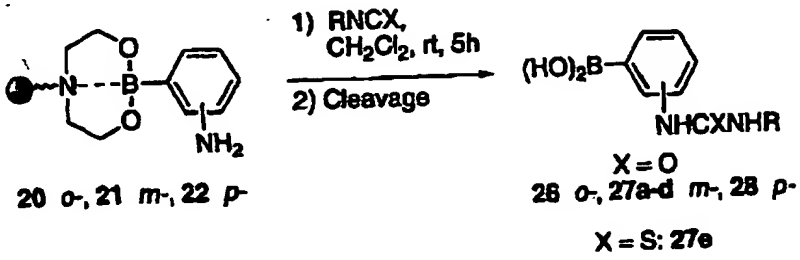
Figure 18



20 *o*-, 21 *m*-, 22 *p*-

23 *o*-, 24 *m*-, 25 *p*-

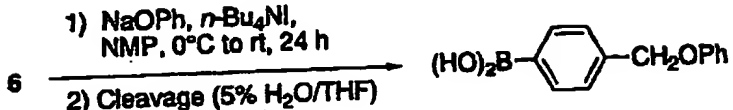
Figure 19



20 *o*-, 21 *m*-, 22 *p*-

26 *o*-, 27a-d *m*-, 28 *p*-

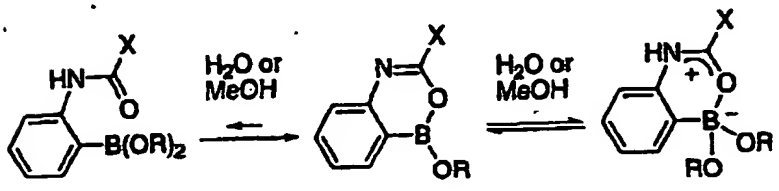
Figure 20



10

(51%, 90% purity)

Figure 21



A B C

X = alkyl/aryl (23)
R = H or CH_3

Figure 22

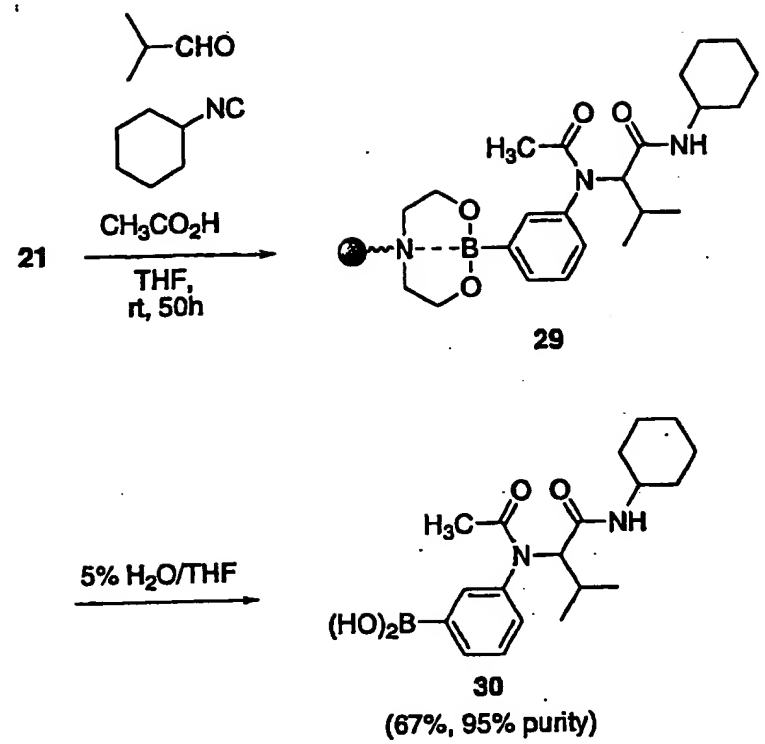


Figure 24

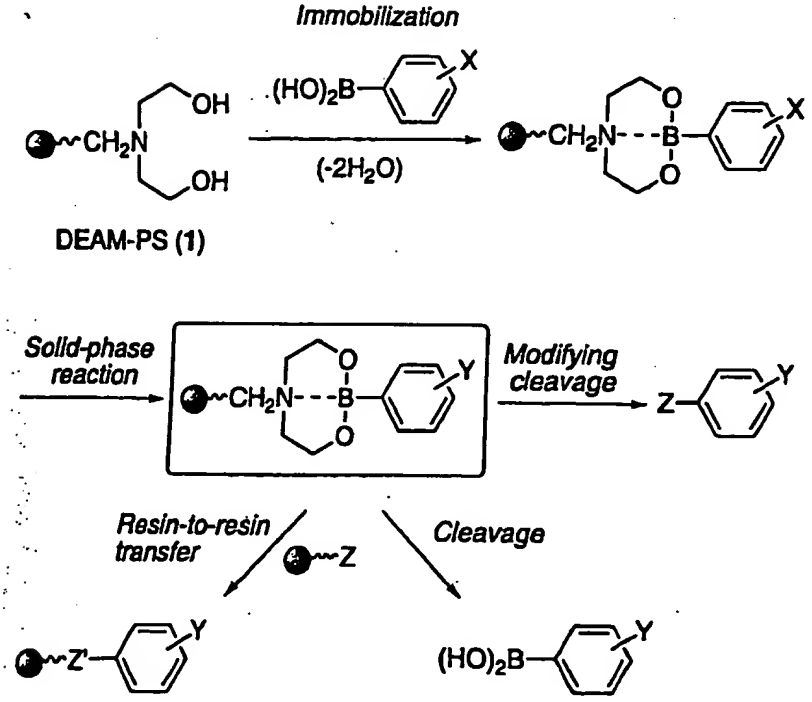


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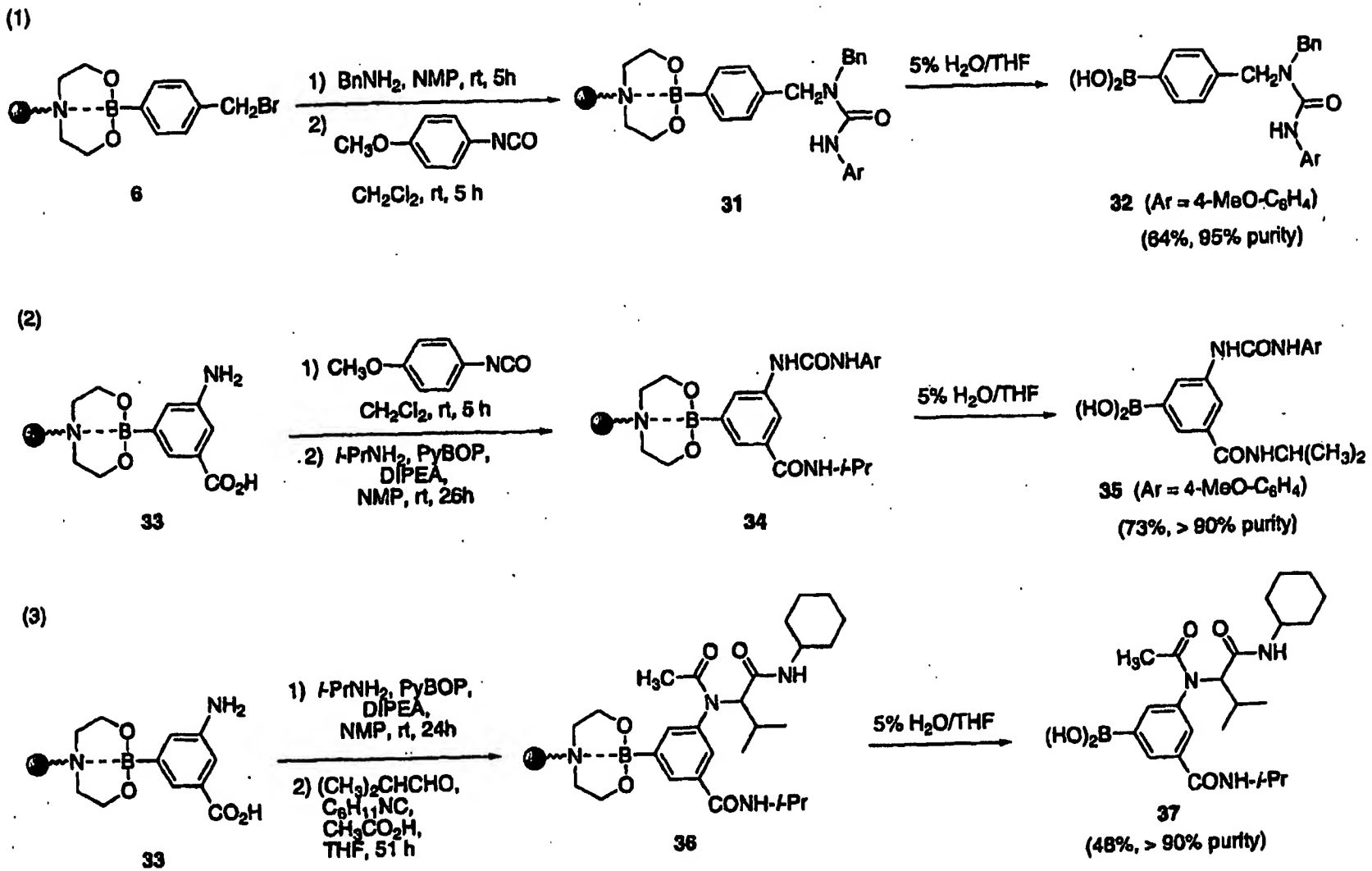
Figure 23



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